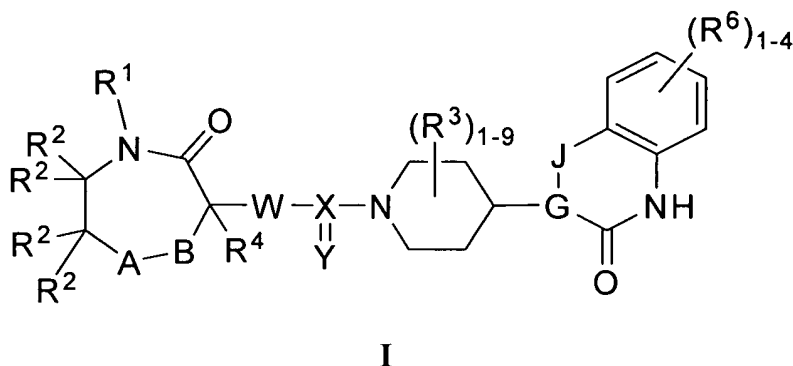


# **Amendment to the Claims**

1. (currently amended) A compound of the formula I:



wherein:

A is a bond, C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

B is (C(R<sup>2</sup>)<sub>2</sub>)<sub>n</sub>;

R<sup>1</sup> is selected from:

- 1) H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-6 cycloalkyl, and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a) C<sub>1</sub>-6 alkyl,
  - b) C<sub>3</sub>-6 cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,

- f)  $(F)_pC_{1-3}$  alkyl,
- g) halogen,
- h)  $OR^4$ ,
- i)  $O(CH_2)_sOR^4$ ,
- j)  $CO_2R^4$ ,
- k)  $(CO)NR^{10}R^{11}$ ,
- l)  $O(CO)NR^{10}R^{11}$ ,
- m)  $N(R^4)(CO)NR^{10}R^{11}$ ,
- n)  $N(R^{10})(CO)R^{11}$ ,
- o)  $N(R^{10})(CO)OR^{11}$ ,
- p)  $SO_2NR^{10}R^{11}$ ,
- q)  $N(R^{10})SO_2R^{11}$ ,
- r)  $S(O)_mR^{10}$ ,
- s) CN,
- t)  $NR^{10}R^{11}$ ,
- u)  $N(R^{10})(CO)NR^4R^{11}$ , and
- v)  $O(CO)R^4$ ; and

2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:

- a)  $C_{1-6}$  alkyl,
- b)  $C_{3-6}$  cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- f)  $(F)_pC_{1-3}$  alkyl,
- g) halogen,
- h)  $OR^4$ ,
- i)  $O(CH_2)_sOR^4$ ,
- j)  $CO_2R^4$ ,

- k)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- n)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
- o)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
- p)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
- q)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
- r)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
- s)  $\text{CN}$ ,
- t)  $\text{NR}^{10}\text{R}^{11}$ ,
- u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and
- v)  $\text{O}(\text{CO})\text{R}^4$ ; and

$\text{R}^2$  is independently selected from:

- 1) H,  $\text{C}_0$ - $\text{C}_6$  alkyl,  $\text{C}_2$ - $\text{C}_6$  alkenyl,  $\text{C}_2$ - $\text{C}_6$  alkynyl,  $\text{C}_3$ -6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a)  $\text{C}_{1-6}$  alkyl,
  - b)  $\text{C}_{3-6}$  cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - f)  $(\text{F})_p\text{C}_{1-3}$  alkyl,
  - g) halogen,
  - h)  $\text{OR}^4$ ,
  - i)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
  - j)  $\text{CO}_2\text{R}^4$ ,
  - k)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,

- n)  $N(R^{10})(CO)R^{11}$ ,
  - o)  $N(R^{10})(CO)OR^{11}$ ,
  - p)  $SO_2NR^{10}R^{11}$ ,
  - q)  $N(R^{10})SO_2R^{11}$ ,
  - r)  $S(O)_mR^{10}$ ,
  - s) CN,
  - t)  $NR^{10}R^{11}$ ,
  - u)  $N(R^{10})(CO)NR^4R^{11}$ , and
  - v)  $O(CO)R^4$ ; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
- a)  $C_{1-6}$  alkyl,
  - b)  $C_{3-6}$  cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - f)  $(F)_pC_{1-3}$  alkyl,
  - g) halogen,
  - h)  $OR^4$ ,
  - i)  $O(CH_2)_sOR^4$ ,
  - j)  $CO_2R^4$ ,
  - k)  $(CO)NR^{10}R^{11}$ ,
  - l)  $O(CO)NR^{10}R^{11}$ ,
  - m)  $N(R^4)(CO)NR^{10}R^{11}$ ,
  - n)  $N(R^{10})(CO)R^{11}$ ,
  - o)  $N(R^{10})(CO)OR^{11}$ ,
  - p)  $SO_2NR^{10}R^{11}$ ,
  - q)  $N(R^{10})SO_2R^{11}$ ,
  - r)  $S(O)_mR^{10}$ ,

- s) CN,
- t)  $\text{NR}^{10}\text{R}^{11}$ ,
- u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and
- v)  $\text{O}(\text{CO})\text{R}^4$ ;

or, any two independent  $\text{R}^2$  on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolinyl, oxazolyl, oxazolinyl, imidazolyl, imidazolinyl, imidazolidinyl, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrrolinyl, morpholinyl, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidiny, pyrrolidinyl, piperidinyl, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

$\text{R}^{10}$  and  $\text{R}^{11}$  are independently selected from: H,  $\text{C}_{1-6}$  alkyl,  $(\text{F})_p\text{C}_{1-6}$  alkyl,  $\text{C}_{3-6}$  cycloalkyl, aryl, heteroaryl, and benzyl, unsubstituted or substituted with halogen, hydroxy or  $\text{C}_{1-6}$  alkoxy, where  $\text{R}^{10}$  and  $\text{R}^{11}$  may be joined together to form a ring selected from: azetidiny, pyrrolidinyl, piperidinyl, piperazinyl, or morpholinyl, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ;

$\text{R}^4$  is independently selected from: H,  $\text{C}_{1-6}$  alkyl,  $(\text{F})_p\text{C}_{1-6}$  alkyl,  $\text{C}_{3-6}$  cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or  $\text{C}_{1-6}$  alkoxy;

W is O,  $\text{NR}^4$  or  $\text{C}(\text{R}^4)_2$ ;

X is C or S;

Y is O,  $(\text{R}^4)_2$ , NCN,  $\text{NSO}_2\text{CH}_3$ ,  $\text{NCONH}_2$ , or Y is  $\text{O}_2$  when X is S;

$\text{R}^6$  is independently selected from H and:

- a)  $\text{C}_{1-6}$  alkyl,
- b)  $\text{C}_{3-6}$  cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,

- d) heteroaryl, unsubstituted or substituted with 1-5 substituents  
 where the substituents are independently selected from R<sup>4</sup>,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents  
 where the substituents are independently selected from R<sup>4</sup>,
- f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- g) halogen,
- h) OR<sup>4</sup>,
- i) O(CH<sub>2</sub>)<sub>s</sub>OR<sup>4</sup>,
- j) CO<sub>2</sub>R<sup>4</sup>,
- k) (CO)NR<sup>10</sup>R<sup>11</sup>,
- l) O(CO)NR<sup>10</sup>R<sup>11</sup>,
- m) N(R<sup>4</sup>)(CO)NR<sup>10</sup>R<sup>11</sup>,
- n) N(R<sup>10</sup>)(CO)R<sup>11</sup>,
- o) N(R<sup>10</sup>)(CO)OR<sup>11</sup>,
- p) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- q) N(R<sup>10</sup>)SO<sub>2</sub>R<sup>11</sup>,
- r) S(O)<sub>m</sub>R<sup>10</sup>,
- s) CN,
- t) NR<sup>10</sup>R<sup>11</sup>,
- u) N(R<sup>10</sup>)(CO)NR<sup>4</sup>R<sup>11</sup>, and
- v) O(CO)R<sup>4</sup>;

G-J is selected from: N, N-C(R<sup>5</sup>)<sub>2</sub>, C=C(R<sup>5</sup>), C=N; C(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>-C(R<sup>5</sup>)<sub>2</sub>, C=C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-C(R<sup>5</sup>)=C(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>-N(R<sup>5</sup>), C=C(R<sup>5</sup>)-N(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)=N, C(R<sup>5</sup>)-N(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C=N-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-N=C(R<sup>5</sup>), C(R<sup>5</sup>)-N(R<sup>5</sup>)-N(R<sup>5</sup>), C=N-N(R<sup>5</sup>), N-C(R<sup>5</sup>)<sub>2</sub>-C(R<sup>5</sup>)<sub>2</sub>, N-C(R<sup>5</sup>)=C(R<sup>5</sup>), N-C(R<sup>5</sup>)<sub>2</sub>-N(R<sup>5</sup>), N-C(R<sup>5</sup>)=N, N-N(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub> and N-N=C(R<sup>5</sup>);

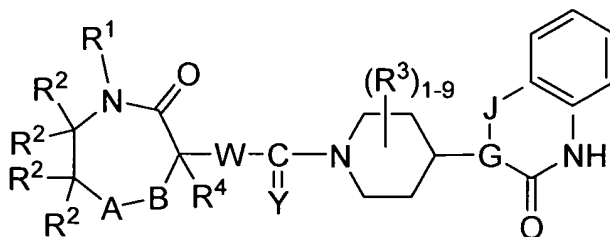
R<sup>5</sup> is independently selected from H, substituted or unsubstituted C<sub>1</sub>-C<sub>3</sub> alkyl, CN, OR<sup>4</sup>, N(R<sup>4</sup>)<sub>2</sub> and CO<sub>2</sub>R<sup>4</sup>;

R<sup>3</sup> is independently selected from H, substituted or unsubstituted C<sub>1</sub>-C<sub>3</sub> alkyl, F, CN and CO<sub>2</sub>R<sup>4</sup>;

p is 0 to 2q+1, for a substituent with q carbons;  
 m is 0, 1 or 2;  
 n is 0 or 1;  
 s is 1, 2 or 3;

~~and~~ or pharmaceutically acceptable salts and individual diastereomers thereof.

2. (currently amended) The compound of claim 1 of the formula:



wherein:

A is a bond, C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

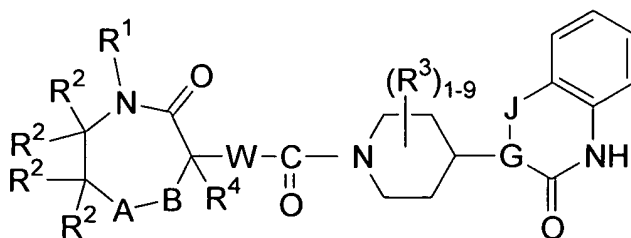
B is (C(R<sup>2</sup>)<sub>2</sub>)<sub>n</sub>;

n is 0 or 1;

Y is O, (R<sup>4</sup>)<sub>2</sub>, NCN, NSO<sub>2</sub>CH<sub>3</sub> or NCONH<sub>2</sub>,

~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

3. (currently amended) The compound of claim 1 of the formula:



wherein:

A is a bond,  $C(R^2)_2$ , O,  $S(O)_m$  or  $NR^2$ ;

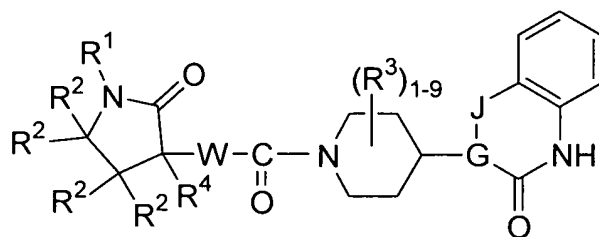
B is  $(C(R^2)_2)_n$ ; and

n is 0 or 1;

~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

4. (currently amended)

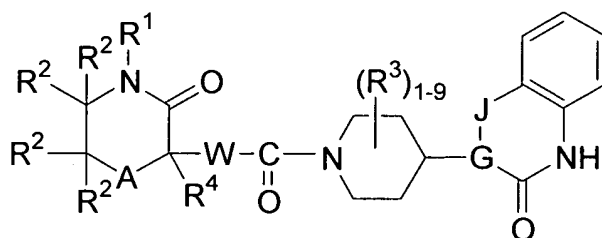
The compound of claim 1 of the formula:



~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

5. (currently amended)

The compound of claim 1 of the formula:



wherein:

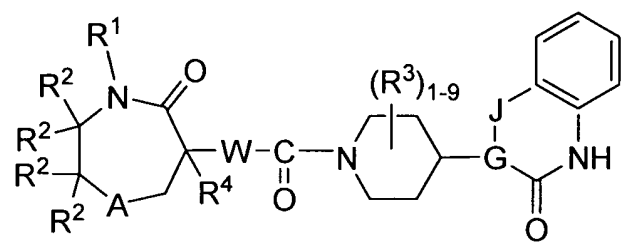
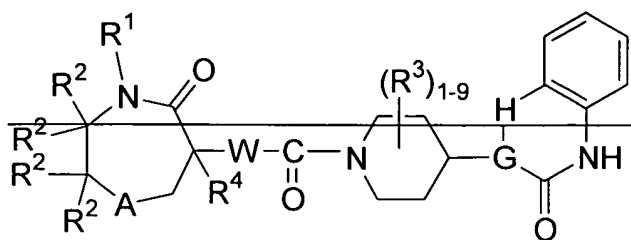
A is  $C(R^2)_2$ , O,  $S(O)_m$  or  $NR^2$ ;

~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

6. (currently amended)

The compound of claim 1 of the formula:





wherein:

A is C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

7. (currently amended) The compound of claim 1, wherein:

R<sup>1</sup> is selected from:

- 1) H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a) C<sub>1</sub>-6 alkyl,
  - b) C<sub>3</sub>-6 cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - f) (F)<sub>p</sub>C<sub>1</sub>-3 alkyl,
  - g) halogen,

- h)  $OR^4$ ,
  - i)  $O(CH_2)_sOR^4$ ,
  - j)  $CO_2R^4$ ,
  - k)  $CN$ ,
  - l)  $NR^{10}R^{11}$ , and
  - m)  $O(CO)R^4$ ; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
- a)  $C_{1-6}$  alkyl,
  - b)  $C_{3-6}$  cycloalkyl,
  - c)  $(F)_pC_{1-3}$  alkyl,
  - d) halogen,
  - e)  $OR^4$ ,
  - f)  $CO_2R^4$ ,
  - g)  $(CO)NR^{10}R^{11}$ ,
  - h)  $SO_2NR^{10}R^{11}$ ,
  - i)  $N(R^{10})SO_2R^{11}$ ,
  - j)  $S(O)_mR^4$ ,
  - k)  $CN$ ,
  - l)  $NR^{10}R^{11}$ , and
  - m)  $O(CO)R^4$ ;

$R^2$  is selected from:

- 1) H,  $C_1-C_6$  alkyl,  $C_2-C_6$  alkynyl,  $C_3-6$  cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a)  $C_{1-6}$  alkyl,
  - b)  $C_{3-6}$  cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents

where the substituents are independently selected from R<sup>4</sup>,

- f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- g) halogen,
- h) OR<sup>4</sup>,
- i) O(CH<sub>2</sub>)<sub>s</sub>OR<sup>4</sup>,
- j) CO<sub>2</sub>R<sup>4</sup>,
- k) S(O)<sub>m</sub>R<sup>4</sup>,
- l) CN,
- m) NR<sup>10</sup>R<sup>11</sup>, and
- n) O(CO)R<sup>4</sup>; and

2) aryl or heteroaryl, unsubstituted or substituted with one more substituents independently selected from:

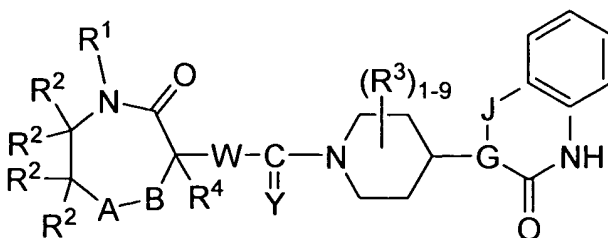
- a) C<sub>1-6</sub> alkyl,
- b) C<sub>3-6</sub> cycloalkyl,
- c) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- d) halogen,
- e) OR<sup>4</sup>,
- f) CO<sub>2</sub>R<sup>4</sup>,
- g) (CO)NR<sup>10</sup>R<sup>11</sup>,
- h) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- i) N(R<sup>10</sup>) SO<sub>2</sub>R<sup>11</sup>,
- j) S(O)<sub>m</sub>R<sup>4</sup>,
- k) CN,
- l) NR<sup>10</sup>R<sup>11</sup>, and
- m) O(CO)R<sup>4</sup>;

or, any two independent R<sup>2</sup> on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazoliny, oxazolyl, oxazoliny, imidazolyl, imidazoliny, imidazolidiny, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrroliny, morpholiny, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide,

N, N-C(R<sup>5</sup>)<sub>2</sub>, C=C(R<sup>5</sup>), C=N, C=C(R<sup>5</sup>)-C(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)=C(R<sup>5</sup>), N-C(R<sup>5</sup>)<sub>2</sub>-C(R<sup>5</sup>)<sub>2</sub> and N-C(R<sup>5</sup>)=C(R<sup>5</sup>);

- a) C1-6 alkyl,
- b) C3-6 cycloalkyl,
- c) (F)<sub>p</sub>C1-3 alkyl,
- d) halogen,
- e) OR<sup>4</sup>,
- f) CO<sub>2</sub>R<sup>4</sup>,
- g) (CO)NR<sup>10</sup>R<sup>11</sup>,
- h) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- i) N(R<sup>10</sup>)SO<sub>2</sub>R<sup>11</sup>,
- j) S(O)<sub>m</sub>R<sup>4</sup>,
- k) CN,
- l) NR<sup>10</sup>R<sup>11</sup>, and
- m) O(CO)R<sup>4</sup>;

8. (currently amended)      The compound of claim 7 of the formula:



wherein:

A is a bond,  $C(R^2)_2$ , O,  $S(O)_m$  or  $NR^2$ ;

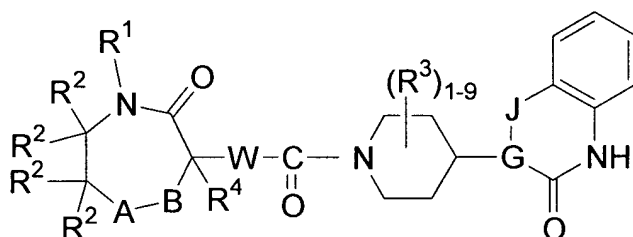
B is  $(C(R^2)_2)_n$ ;

n is 0 or 1;

Y is O,  $(R^4)_2$ , NCN,  $NSO_2CH_3$  or  $NCONH_2$ ,

~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

9. (currently amended) The compound of claim 7 of the formula:



wherein:

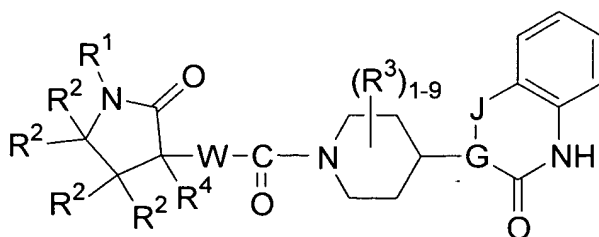
A is a bond,  $C(R^2)_2$ , O,  $S(O)_m$  or  $NR^2$ ;

B is  $(C(R^2)_2)_n$ ;

n is 0 or 1;

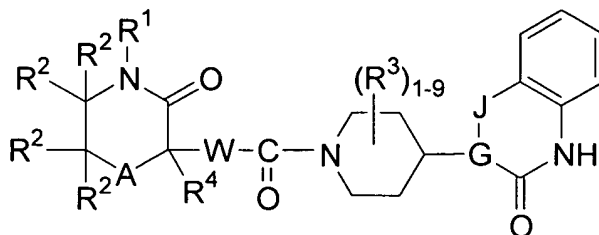
~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

10. (currently amended) The compound of claim 7 of the formula:



~~and~~ or pharmaceutically acceptable salts and individual stereoisomers thereof.

11. (currently amended) The compound of claim 7 of the formula:

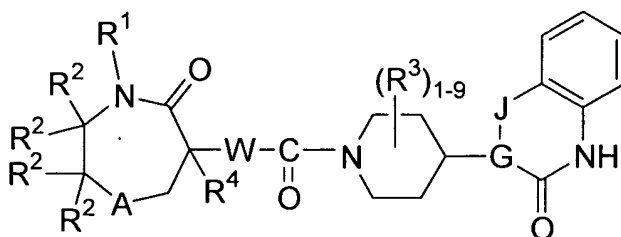


wherein:

A is C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

12. (currently amended) The compound of claim 7 of the formula:



wherein:

A is C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

13. (currently amended) The compound of claim 1, wherein:

R<sup>1</sup> is selected from:

- 1) H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a) C<sub>1</sub>-6 alkyl,
  - b) C<sub>3</sub>-6 cycloalkyl,
  - c) phenyl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents

where the substituents are independently selected from  $R^4$ ,  
and where heteroaryl is selected from: imidazole, isoxazole, oxazole, pyrazine,  
pyrazole, pyridazine, pyridine, pyrimidine, and thiazole;

e) heterocycle, unsubstituted or substituted with 1-5 substituents

where the substituents are independently selected from  $R^4$ , and where heterocycle  
is selected from: azetidine, dioxane, dioxolane, morpholine, oxetane, piperazine,  
piperidine, pyrrolidine, tetrahydrofuran, and tetrahydropyran;

f)  $(F)_pC_{1-3}$  alkyl,

g) halogen,

h)  $OR^4$ ,

i)  $O(CH_2)_sOR^4$ ,

j)  $CO_2R^4$ ,

k) CN,

l)  $NR^{10}R^{11}$ , and

m)  $O(CO)R^4$ ; and

2) aryl or heteroaryl, selected from:

phenyl, imidazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine,  
pyrimidine, and thiazole, unsubstituted or substituted with one or more  
substituents independently selected from:

a)  $C_{1-6}$  alkyl,

b)  $C_{3-6}$  cycloalkyl,

c)  $(F)_pC_{1-3}$  alkyl,

d) halogen,

e)  $OR^4$ ,

f)  $CO_2R^4$ ,

g)  $(CO)NR^{10}R^{11}$ ,

h)  $SO_2NR^{10}R^{11}$ ,

i)  $N(R^{10})SO_2R^{11}$ ,

j)  $S(O)_mR^4$ ,

k) CN,

l)  $NR^{10}R^{11}$ , and

m)  $\text{O}(\text{CO})\text{R}^4$ ;

$\text{R}^2$  is selected from:

1) H,  $\text{C}_0$ - $\text{C}_6$  alkyl,  $\text{C}_3$ -6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:

- a)  $\text{C}_{1-6}$  alkyl,
- b)  $\text{C}_{3-6}$  cycloalkyl,
- c) phenyl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ , and where heteroaryl is selected from:
  - benzimidazole, benzothiophene, furan, imidazole, indole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, thiophene, and triazole;
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ , and where heterocycle is selected from:
  - azetidine, imidazolidine, imidazoline, isoxazoline, isoxazolidine, morpholine, oxazoline, oxazolidine, oxetane, pyrazolidine, pyrazoline, pyrroline, tetrahydrofuran, tetrahydropyran, thiazoline, and thiazolidine;
- f)  $(\text{F})_p\text{C}_{1-3}$  alkyl,
- g) halogen,
- h)  $\text{OR}^4$ ,
- i)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
- j)  $\text{CO}_2\text{R}^4$ ,
- k) CN,
- l)  $\text{NR}^{10}\text{R}^{11}$ , and
- m)  $\text{O}(\text{CO})\text{R}^4$ ; and

2) aryl or heteroaryl, selected from:



phenyl, benzimidazole, benzothiophene, furan, imidazole, indole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, thiophene, and triazole; unsubstituted or substituted with one or more substituents independently selected from:

- a) C<sub>1-6</sub> alkyl,
- b) C<sub>3-6</sub> cycloalkyl,
- c) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- d) halogen,
- e) OR<sup>4</sup>,
- f) CO<sub>2</sub>R<sup>4</sup>,
- g) (CO)NR<sup>10</sup>R<sup>11</sup>,
- h) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- i) N(R<sup>10</sup>) SO<sub>2</sub>R<sup>11</sup>,
- j) S(O)<sub>m</sub>R<sup>4</sup>,
- k) CN,
- l) NR<sup>10</sup>R<sup>11</sup>, and
- m) O(CO)R<sup>4</sup>;

or, any two independent R<sup>2</sup> on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazoliny, oxazolyl, oxazoliny, imidazolyl, imidazoliny, imidazolidiny, pyridyl, pyrimidyl, pyrazinyl, pyrrolyl, pyrroliny, morpholiny, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide, azetidiny, pyrrolidiny, piperidiny, tetrahydrofuranyl, tetrahydropyranyl, tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperazinyl;

R<sup>10</sup> and R<sup>11</sup> are independently selected from: H, C<sub>1-6</sub> alkyl, (F)<sub>p</sub>C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C<sub>1-C6</sub> alkoxy, where R<sup>10</sup> and R<sup>11</sup> may be joined together to form a ring selected from: azetidiny, pyrrolidiny, piperidiny, piperazinyl and morpholiny, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>;

$R^4$  is independently selected from: H, C<sub>1-6</sub> alkyl, (F)<sub>p</sub>C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, aryl, heteroaryl and phenyl, unsubstituted or substituted with hydroxy or C<sub>1-C6</sub> alkoxy;

W is  $NR^4$  or  $C(R^4)_2$ ;

G-J is selected from:

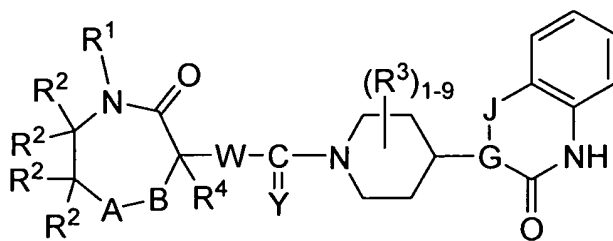
N,  $N-C(R^5)_2$ ,  $C=C(R^5)$ ,  $C=N$ ,  $C=C(R^5)-C(R^5)_2$ ,  $C(R^5)-C(R^5)=C(R^5)$ ,  $N-C(R^5)_2-C(R^5)_2$ , and  $N-C(R^5)=C(R^5)$ ;

$R^6$  is independently selected from H and:

- a) C<sub>1-6</sub> alkyl,
- b) C<sub>3-6</sub> cycloalkyl,
- c) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- d) halogen,
- e)  $OR^4$ ,
- f)  $CO_2R^4$ ,
- g)  $(CO)NR^{10}R^{11}$ ,
- h)  $SO_2NR^{10}R^{11}$ ,
- i)  $N(R^{10})SO_2R^{11}$ ,
- j)  $S(O)_mR^4$ ,
- k) CN,
- l)  $NR^{10}R^{11}$ , and
- m)  $O(CO)R^4$ ;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

14. (currently amended)      The compound of claim 13 of the formula:



wherein:

A is a bond, C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

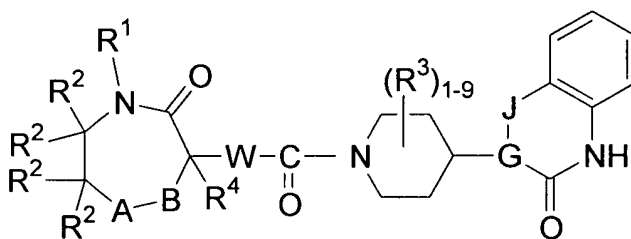
B is  $(C(R^2)_2)_n$ ;

$n$  is 0 or 1;

Y is O, (R<sup>4</sup>)<sub>2</sub>, NCN, NSO<sub>2</sub>CH<sub>3</sub> or NCONH<sub>2</sub>,

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

15. (currently amended) The compound of claim 13 of the formula:



wherein:

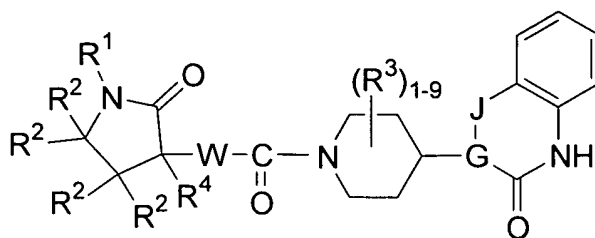
A is a bond, C(R<sup>2</sup>)<sub>2</sub>, O, S(O)<sub>m</sub> or NR<sup>2</sup>;

B is  $(C(R^2)_2)_n$ ;

$n$  is 0 or 1;

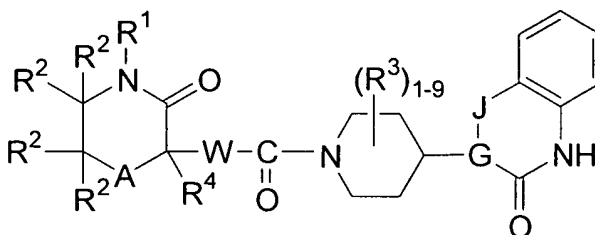
and or pharmaceutically acceptable salts and individual stereoisomers thereof.

16. (currently amended) The compound of claim 13 of the formula:



and or pharmaceutically acceptable salts and individual stereoisomers thereof.

17. (currently amended) The compound of claim 13 of the formula:

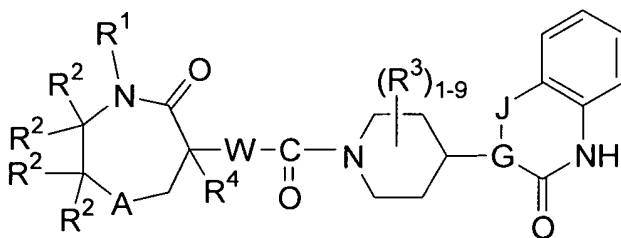


wherein:

$A$  is  $C(R^2)_2$ ,  $O$ ,  $S(O)_m$  or  $NR^2$ ;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

18. (currently amended) The compound of claim 13 of the formula:

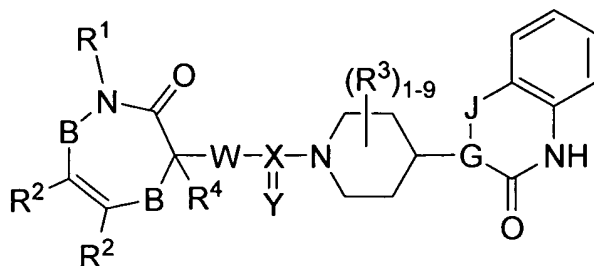


wherein:

$A$  is  $C(R^2)_2$ ,  $O$ ,  $S(O)_m$  or  $NR^2$ ;

and or pharmaceutically acceptable salts and individual stereoisomers thereof.

19. (currently amended) A compound of the formula:



wherein:

B is independently (C(R<sup>2</sup>)<sub>2</sub>)<sub>n</sub>;

R<sup>1</sup> is selected from:

- 1) H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-6 cycloalkyl, and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a) C<sub>1</sub>-6 alkyl,
  - b) C<sub>3</sub>-6 cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
  - g) halogen,
  - h) OR<sup>4</sup>,
  - i) O(CH<sub>2</sub>)<sub>s</sub> OR<sup>4</sup>,
  - j) CO<sub>2</sub>R<sup>4</sup>,
  - k) (CO)NR<sup>10</sup>R<sup>11</sup>,
  - l) O(CO)NR<sup>10</sup>R<sup>11</sup>,
  - m) N(R<sup>4</sup>)(CO)NR<sup>10</sup>R<sup>11</sup>,
  - n) N(R<sup>10</sup>)(CO)R<sup>11</sup>,

- o)  $N(R^{10})(CO)OR^{11}$ ,
- p)  $SO_2NR^{10}R^{11}$ ,
- q)  $N(R^{10})SO_2R^{11}$ ,
- r)  $S(O)_mR^{10}$ ,
- s) CN,
- t)  $NR^{10}R^{11}$ ,
- u)  $N(R^{10})(CO)NR^4R^{11}$ , and,
- v)  $O(CO)R^4$ ; and

2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:

- a)  $C_{1-6}$  alkyl,
- b)  $C_{3-6}$  cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- f)  $(F)_pC_{1-3}$  alkyl,
- g) halogen,
- h)  $OR^4$ ,
- i)  $O(CH_2)_sOR^4$ ,
- j)  $CO_2R^4$ ,
- k)  $(CO)NR^{10}R^{11}$ ,
- l)  $O(CO)NR^{10}R^{11}$ ,
- m)  $N(R^4)(CO)NR^{10}R^{11}$ ,
- n)  $N(R^{10})(CO)R^{11}$ ,
- o)  $N(R^{10})(CO)OR^{11}$ ,
- p)  $SO_2NR^{10}R^{11}$ ,
- q)  $N(R^{10})SO_2R^{11}$ ,
- r)  $S(O)_mR^{10}$ ,
- s) CN,

- t)  $\text{NR}^{10}\text{R}^{11}$ ,
- u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and,
- v)  $\text{O}(\text{CO})\text{R}^4$ ; and

$\text{R}^2$  is independently selected from:

- 1) H,  $\text{C}_0$ - $\text{C}_6$  alkyl,  $\text{C}_2$ - $\text{C}_6$  alkenyl,  $\text{C}_2$ - $\text{C}_6$  alkynyl,  $\text{C}_3$ -6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a)  $\text{C}_1$ -6 alkyl,
  - b)  $\text{C}_3$ -6 cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - f)  $(\text{F})_p\text{C}_{1-3}$  alkyl,
  - g) halogen,
  - h)  $\text{OR}^4$ ,
  - i)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
  - j)  $\text{CO}_2\text{R}^4$ ,
  - k)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - n)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
  - o)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
  - p)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
  - q)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
  - r)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
  - s) CN,
  - t)  $\text{NR}^{10}\text{R}^{11}$ ,
  - u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and,

- v)  $O(CO)R^4$ ; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
- a)  $C_{1-6}$  alkyl,
  - b)  $C_{3-6}$  cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
  - f)  $(F)_pC_{1-3}$  alkyl,
  - g) halogen,
  - h)  $OR^4$ ,
  - i)  $O(CH_2)_sOR^4$ ,
  - j)  $CO_2R^4$ ,
  - k)  $(CO)NR^{10}R^{11}$ ,
  - l)  $O(CO)NR^{10}R^{11}$ ,
  - m)  $N(R^4)(CO)NR^{10}R^{11}$ ,
  - n)  $N(R^{10})(CO)R^{11}$ ,
  - o)  $N(R^{10})(CO)OR^{11}$ ,
  - p)  $SO_2NR^{10}R^{11}$ ,
  - q)  $N(R^{10})SO_2R^{11}$ ,
  - r)  $S(O)_mR^{10}$ ,
  - s) CN,
  - t)  $NR^{10}R^{11}$ ,
  - u)  $N(R^{10})(CO)NR^4R^{11}$ , and,
  - v)  $O(CO)R^4$ ;

or, any two independent  $R^2$  on the same or adjacent atoms may be joined together to form a ring selected from cyclobutyl, cyclopentenyl, cyclopentyl, cyclohexenyl, cyclohexyl, phenyl, naphthyl, thienyl, thiazolyl, thiazolinyl, oxazolyl, oxazolinyl, imidazolyl,



imidazoliny, imidazolidiny, pyridyl, pyrimidyl, pyraziny, pyrroly, pyrroliny,  
morpholiny, thiomorpholine, thiomorpholine S-oxide, thiomorpholine S-dioxide,  
azetidiny, pyrrolidiny, piperidiny, tetrahydrofuranyl, tetrahydropyranyl,  
tetrahydropyridyl, furanyl, dihydrofuranyl, dihydropyranyl and piperaziny;

R<sup>10</sup> and R<sup>11</sup> are independently selected from: H, C<sub>1-6</sub> alkyl, (F)<sub>p</sub>C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, aryl, heteroaryl, and benzyl, unsubstituted or substituted with halogen, hydroxy or C<sub>1-6</sub> alkoxy, where R<sup>10</sup> and R<sup>11</sup> may be joined together to form a ring selected from: azetidiny, pyrrolidiny, piperidiny, piperaziny, or morpholiny, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>;

R<sup>4</sup> is independently selected from: H, C<sub>1-6</sub> alkyl, (F)<sub>p</sub>C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C<sub>1-6</sub> alkoxy;

W is O, NR<sup>4</sup> or C(R<sup>4</sup>)<sub>2</sub>;

X is C or S;

Y is O, (R<sup>4</sup>)<sub>2</sub>, NCN, NSO<sub>2</sub>CH<sub>3</sub>, NCONH<sub>2</sub>, or Y is O<sub>2</sub> when X is S;

R<sup>6</sup> is independently selected from H and:

- a) C<sub>1-6</sub> alkyl,
- b) C<sub>3-6</sub> cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- g) halogen,
- h) OR<sup>4</sup>.

- i)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
- j)  $\text{CO}_2\text{R}^4$ ,
- k)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- n)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
- o)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
- p)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
- q)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
- r)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
- s)  $\text{CN}$ ,
- t)  $\text{NR}^{10}\text{R}^{11}$ ,
- u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and,
- v)  $\text{O}(\text{CO})\text{R}^4$ ; and

G-J is selected from: N,  $\text{N}-\text{C}(\text{R}^5)_2$ ,  $\text{C}=\text{C}(\text{R}^5)$ ,  $\text{C}=\text{N}$ ;  $\text{C}(\text{R}^5)$ ,  $\text{C}(\text{R}^5)-\text{C}(\text{R}^5)_2$ ,  $\text{C}(\text{R}^5)-\text{C}(\text{R}^5)_2-\text{C}(\text{R}^5)_2$ ,  $\text{C}=\text{C}(\text{R}^5)-\text{C}(\text{R}^5)_2$ ,  $\text{C}(\text{R}^5)-\text{C}(\text{R}^5)=\text{C}(\text{R}^5)$ ,  $\text{C}(\text{R}^5)-\text{C}(\text{R}^5)_2-\text{N}(\text{R}^5)$ ,  $\text{C}=\text{C}(\text{R}^5)-\text{N}(\text{R}^5)$ ,  $\text{C}(\text{R}^5)-\text{C}(\text{R}^5)=\text{N}$ ,  $\text{C}(\text{R}^5)-\text{N}(\text{R}^5)-\text{C}(\text{R}^5)_2$ ,  $\text{C}=\text{N}-\text{C}(\text{R}^5)_2$ ,  $\text{C}(\text{R}^5)-\text{N}=\text{C}(\text{R}^5)$ ,  $\text{C}(\text{R}^5)-\text{N}(\text{R}^5)-\text{N}(\text{R}^5)$ ,  $\text{C}=\text{N}-\text{N}(\text{R}^5)$ ,  $\text{N}-\text{C}(\text{R}^5)_2-\text{C}(\text{R}^5)_2$ ,  $\text{N}-\text{C}(\text{R}^5)=\text{C}(\text{R}^5)$ ,  $\text{N}-\text{C}(\text{R}^5)_2-\text{N}(\text{R}^5)$ ,  $\text{N}-\text{C}(\text{R}^5)=\text{N}$ ,  $\text{N}-\text{N}(\text{R}^5)-\text{C}(\text{R}^5)_2$  and  $\text{N}-\text{N}=\text{C}(\text{R}^5)$ ;

Q, T, U and V are each independently a C or N wherein at least one but no more than three of Q, T, U and V are N, and wherein when any of Q, T, U, or V is C it unsubstituted or substituted where the substituents are independently selected from  $\text{R}^6$ ;

$\text{R}^5$  is independently selected from H, substituted or unsubstituted  $\text{C}_1-\text{C}_3$  alkyl, CN,  $\text{OR}^4$ ,  $\text{N}(\text{R}^4)_2$  and  $\text{CO}_2\text{R}^4$ ;

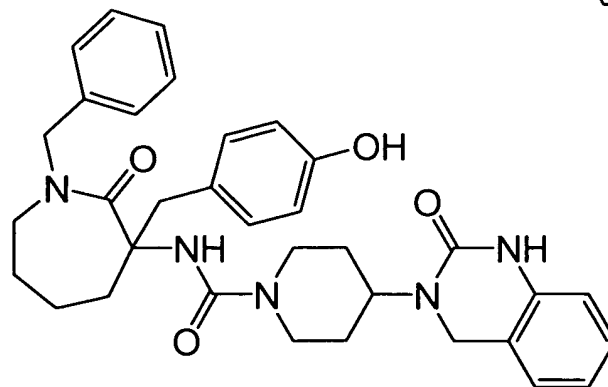
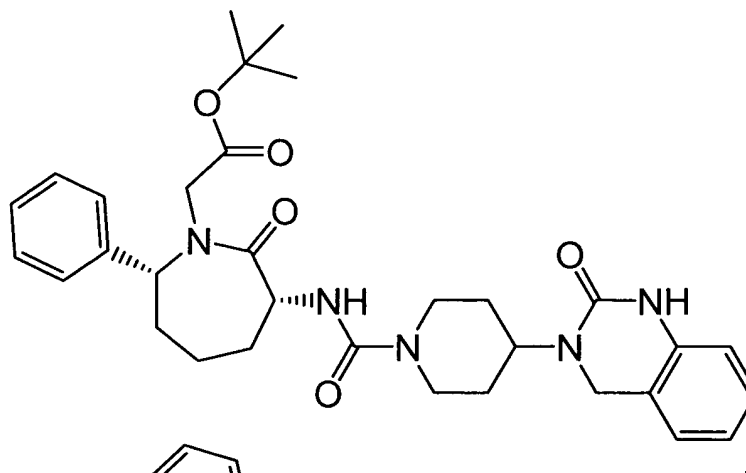
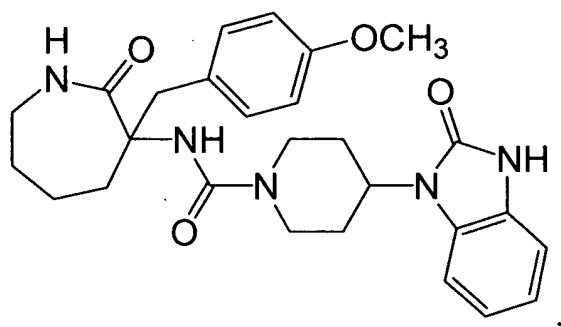
$\text{R}^3$  is independently selected from H, substituted or unsubstituted  $\text{C}_1-\text{C}_3$  alkyl, F, CN and  $\text{CO}_2\text{R}^4$ ;

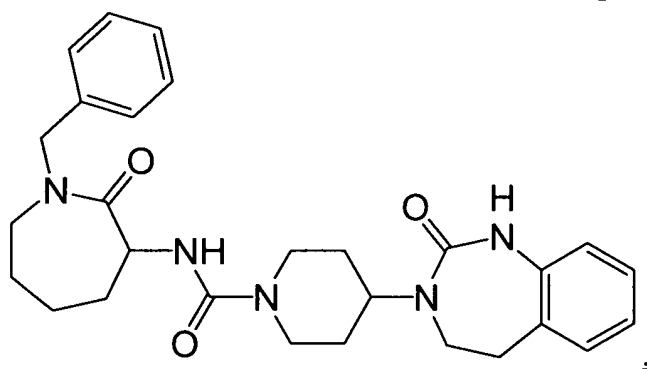
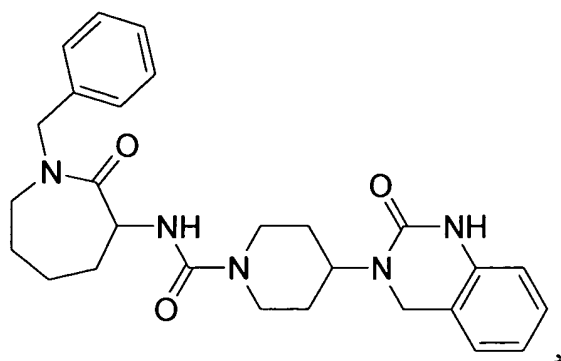
p is 0 to  $2q+1$ , for a substituent with q carbons;

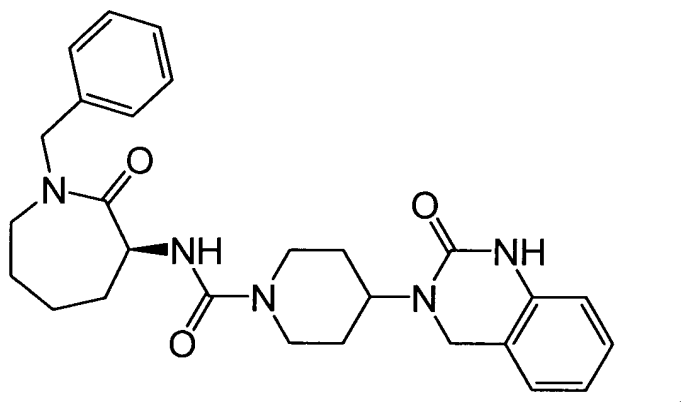
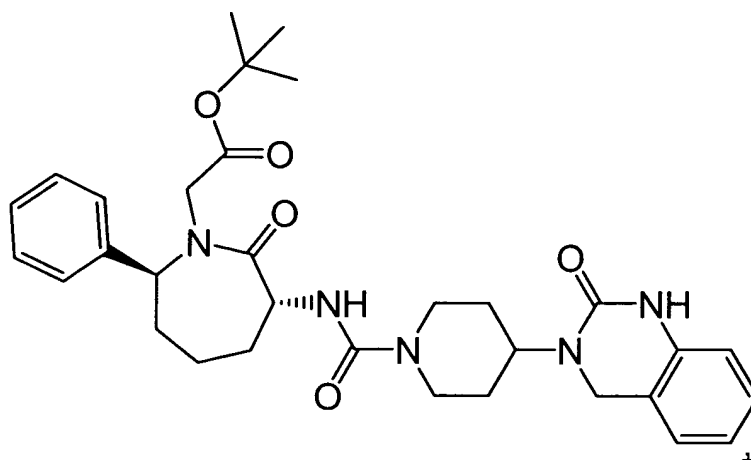
m is 0, 1 or 2;  
n is 0 or 1;  
s is 1, 2 or 3;

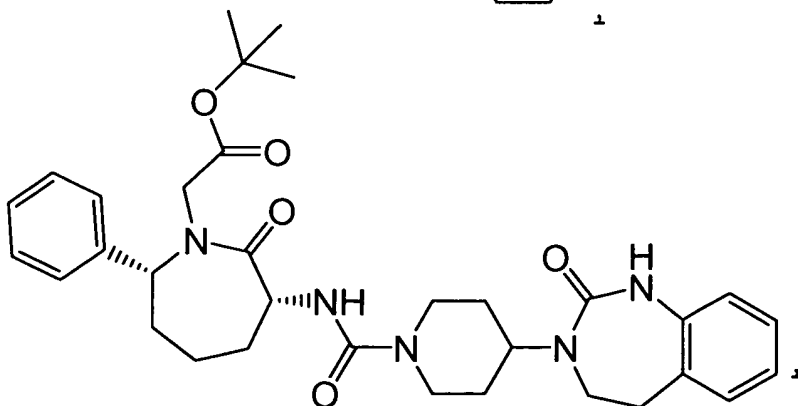
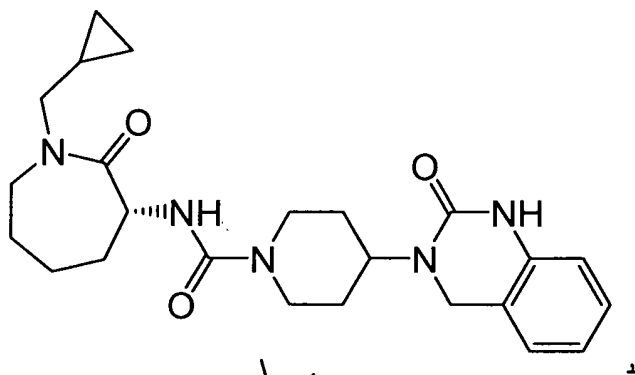
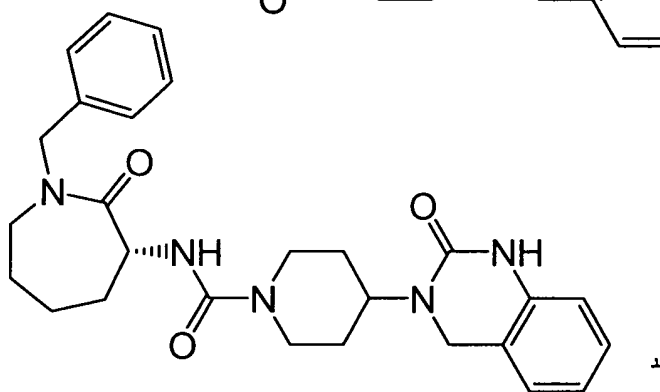
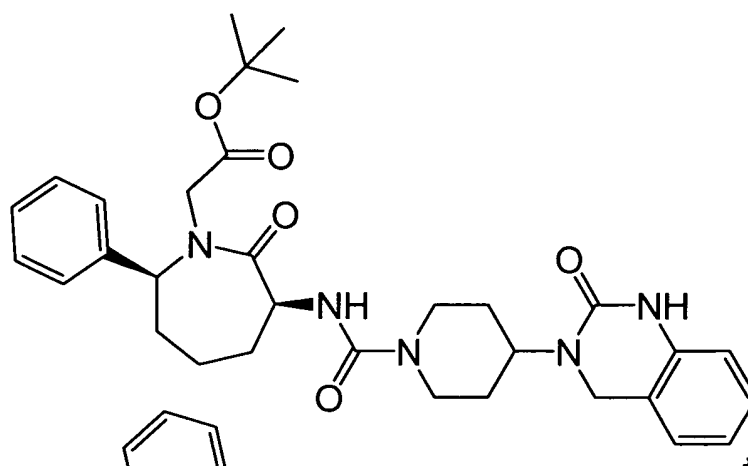
and or pharmaceutically acceptable salts and individual diastereomers thereof.

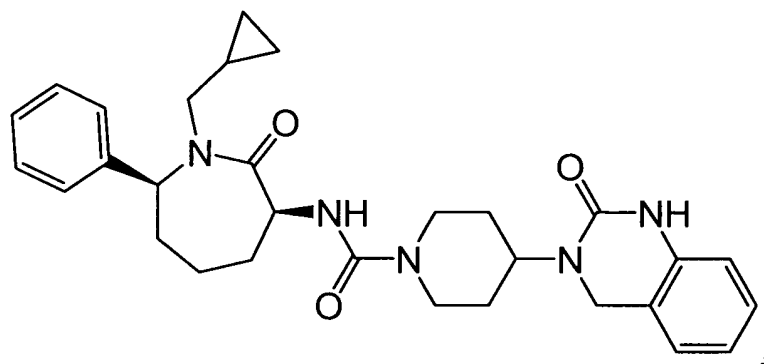
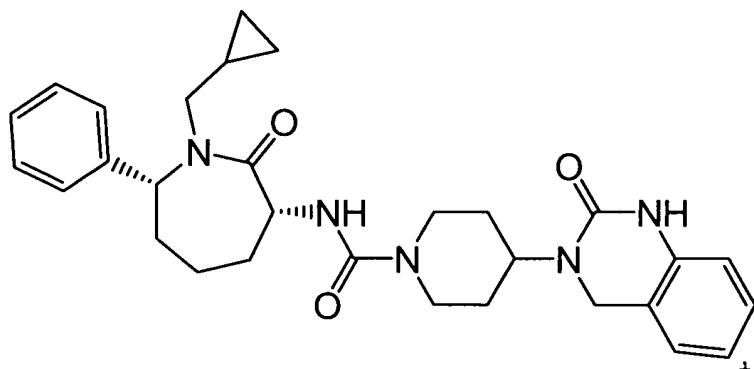
20. (currently amended) A compound selected from the group consisting of:

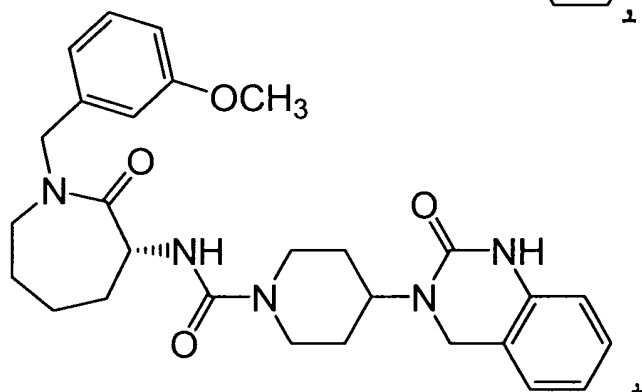
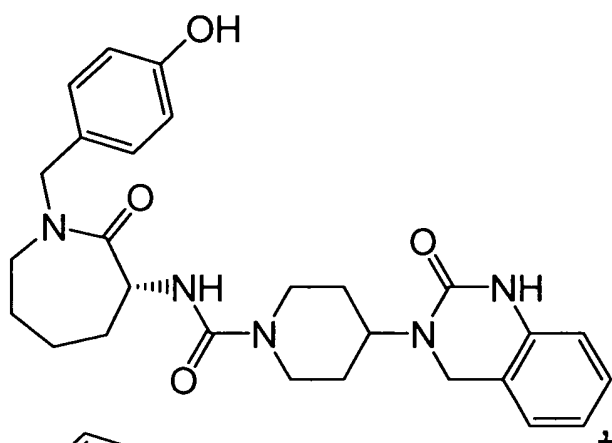




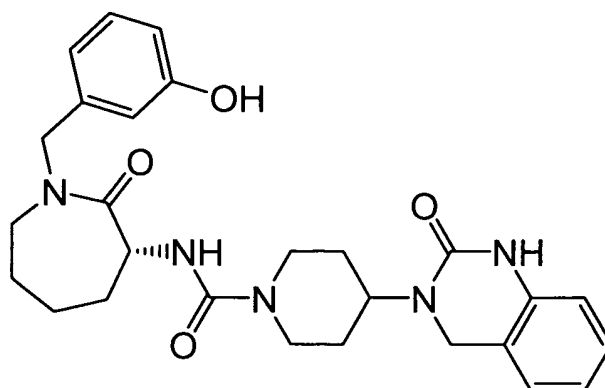




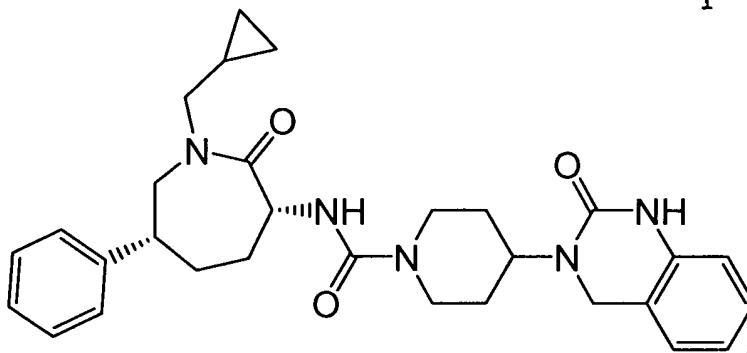




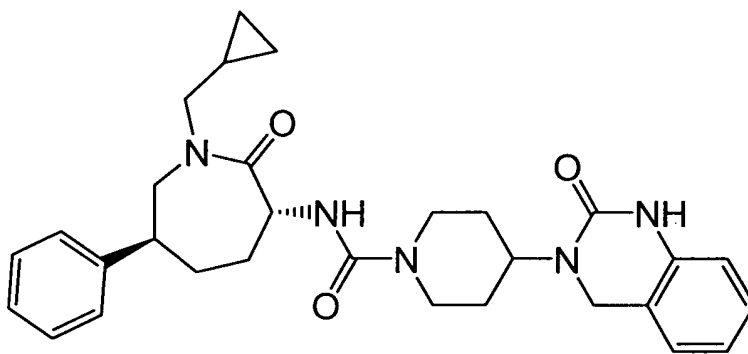




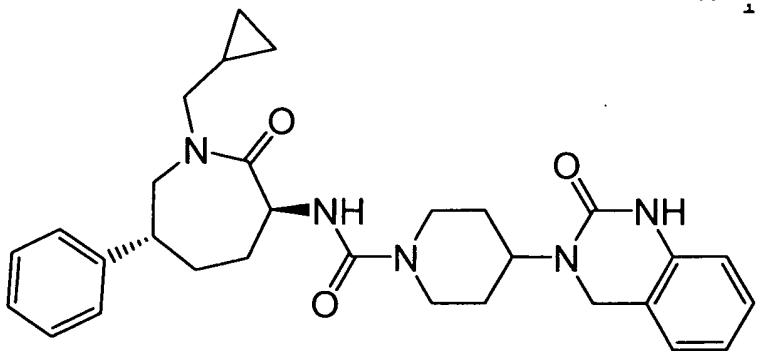
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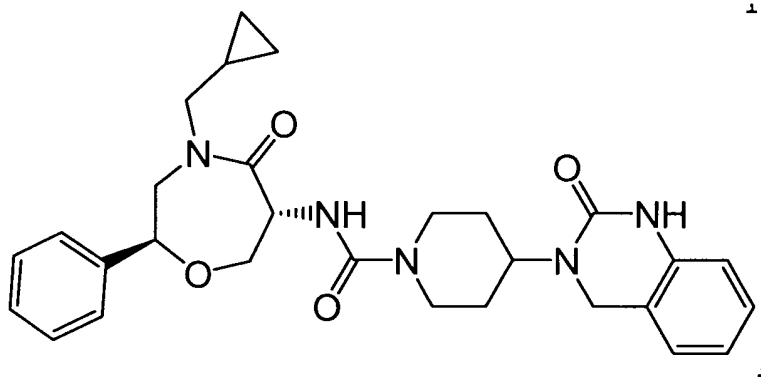
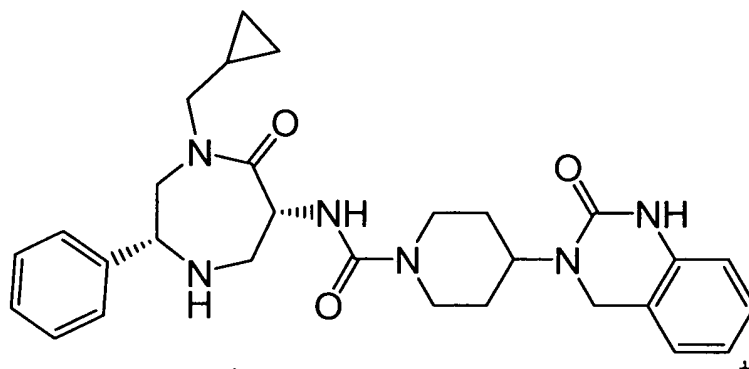
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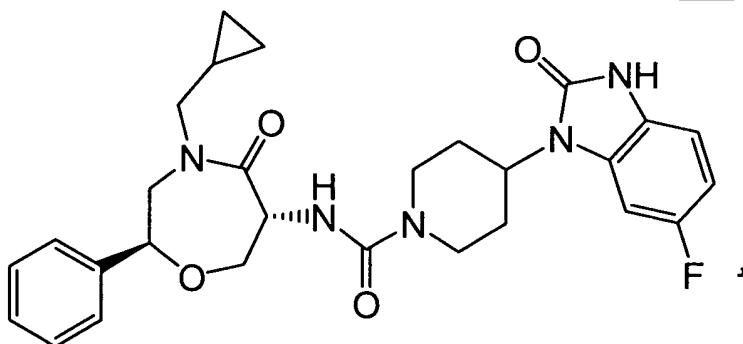
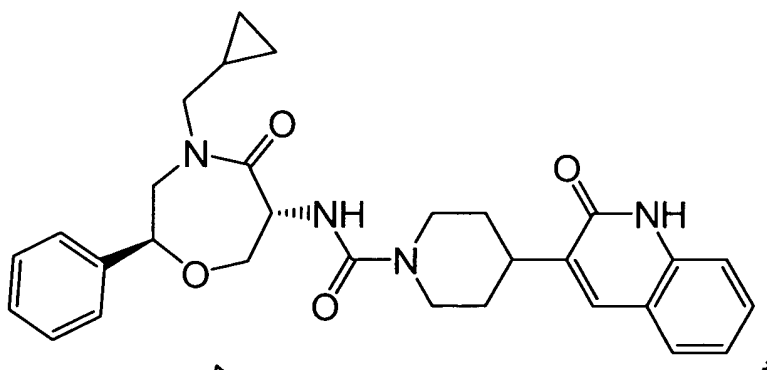
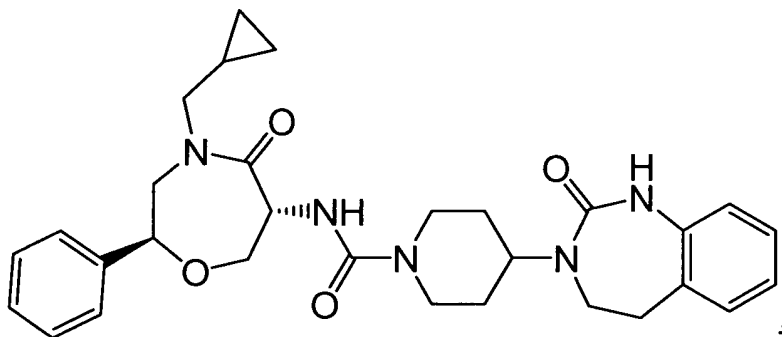
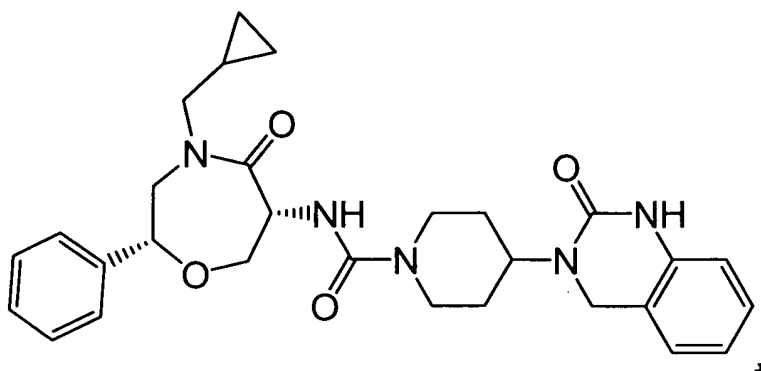


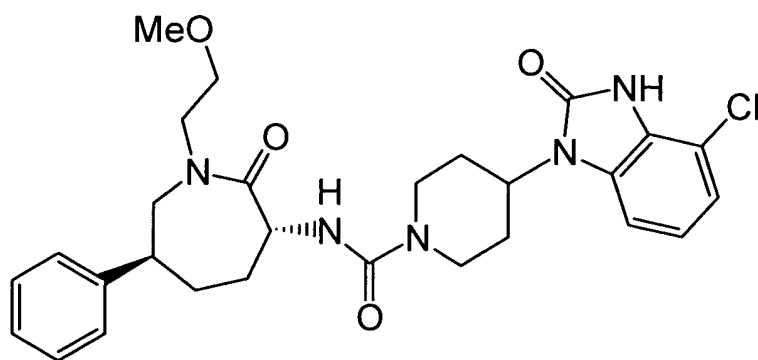
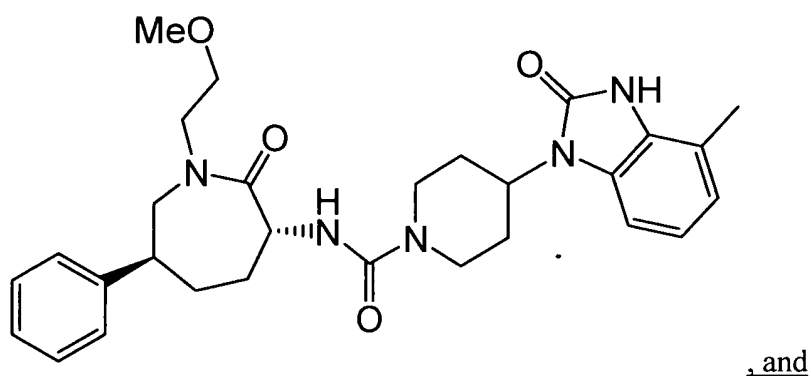
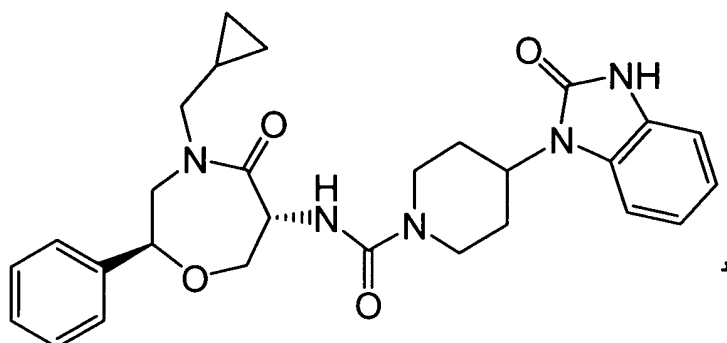
1



1







and or pharmaceutically acceptable salts and individual diastereomers thereof.

21. (previously presented) A pharmaceutical composition which comprises an inert carrier and the compound of Claim 1.

22. (canceled)

23. (new) A method of treating a condition selected from the group consisting of headache, migraine headache and cluster headache, said method comprising the step of providing the compound of Claim 1 to a patient in need thereof.